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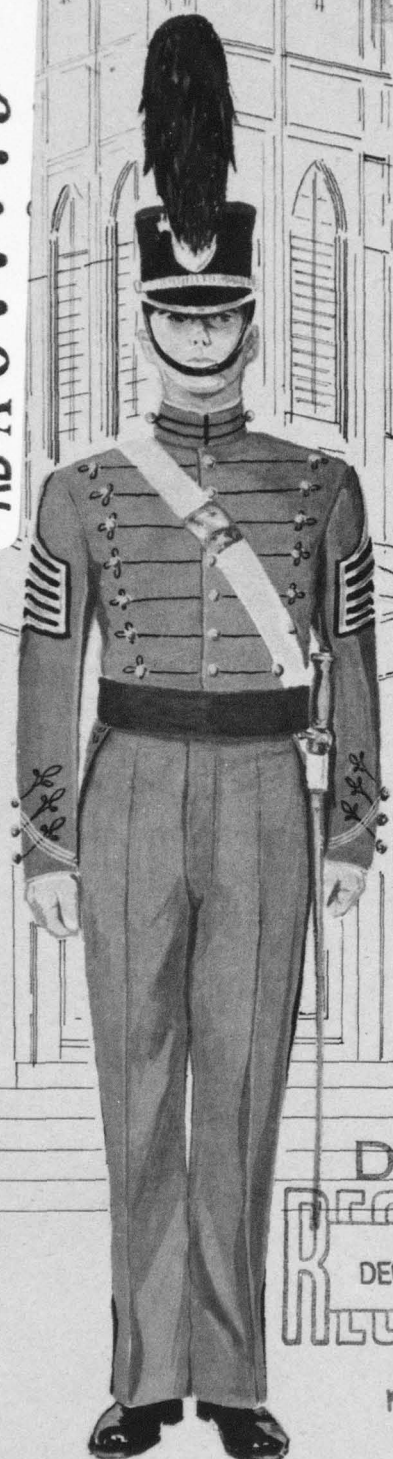
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JANUARY 1974

EFFECTS OF ANSWERING QUESTIONNAIRES ON ATTITUDE AND BEHAVIOR

Report No. 4E0.00-74-017

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Prepared by: Dr. Robert F. Priest

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ABSTRACT

This report reviews the psychological literature on the effects of answering questionnaires on individual behavior. First it reviews the data on generalized criticisms of questionnaires. Next it reviews experimental studies dealing with the effects of exposure to questionnaires on subsequent attitudes of the individual. Then, studies of the use of questionnaires by organizations and their behavioral effects are reviewed. Finally, the implications of these results for research at USMA are discussed, and several recommendations are made.

NOTE: Any conclusions in this report are not to be construed as official U. S. Military Academy or Department of the Army positions unless so designated by other authorized documents.

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## CONTENTS

	Page
INTRODUCTION.....	1
CRITICISMS OF QUESTIONNAIRES: ANXIETY, STRESS, AND INTEREST.....	2
EFFECTS OF QUESTIONNAIRES ON ATTITUDE CHANGE.....	5
ORGANIZATIONAL USE, CASE STUDIES, AND BEHAVIORAL EFFECTS.....	9
IMPLICATIONS AND RECOMMENDATIONS.....	10
DD Form 1473.....	12

Typist: Mrs. Susan M. Quimby

## INTRODUCTION

Every year the USMA Office of Institutional Research designs and/or administers a number of research questionnaires. These questionnaires generally elicit a wide variety of reactions both from cadets and from members of the staff and faculty. In the process of planning the questionnaires, Academy officials frequently challenge the potential usefulness of certain items, or express the concern that certain questions--despite their potential usefulness--may have an undesirable effect on the cadets. This concern that research questionnaires may have potentially harmful effects is an entirely legitimate concern of the administrative leadership of any organization which uses such questionnaires. The professional psychologists who design such questionnaires also are legitimately concerned, both in terms of professional ethics and in terms of the accuracy of the data they obtain.

Principle 7 of the Ethical Principles in the Conduct of Research with Human Participants puts the matter clearly:<sup>1</sup> "The ethical investigator protects participants from physical and mental discomfort, harm, and danger. If the risk of such consequences exists, the investigator is required to inform the participant of that fact, secure consent before proceeding, and take all possible measures to minimize distress. A research procedure may not be used if it is likely to cause serious and lasting damage to participants." Thus, administrators and research psychologists agree on the importance of knowing more about the actual effects of research questionnaires.

This report deals with the factual issue: What is known about the actual effects of research questionnaires on persons who take them? Psychological abstracts were consulted for psychological theories or empirical research which might bear on the problem. Questions such as the following were asked: Do questionnaires cause people to think more seriously about the topics concerned? Do organizations which use questionnaires produce lower quality outputs than organizations which do not? In retrospect, do persons who have engaged in socially undesirable behavior recall greater exposure to research questionnaires? Do organizations which use questionnaires continually know of cases where the survey provoked an increase or decrease in the behavior under study? The last of these questions is perhaps the most important. If an affirmative answer is given, then professional ethics would compel us to place severe restrictions on the use of such surveys.

Before turning to the body of the report, which is organized around the questions listed above, a few definitions and limitations of this report should be noted. By "research questionnaires" we mean questionnaires written by qualified psychologists, sociologists, or political scientists. "Questionnaires" are sometimes used by Congressmen, for example, to impress voters,<sup>2</sup> or by advertisers to increase product awareness. Questionnaires are sometimes written and reported to bolster a particular point of view. The present report deals only with the effects of professionally constructed questionnaires.

Propagandists can write questions which almost compel a person to give the desired answer. They may then use the results of the survey to "prove" that the public supports their point of view. Such questionnaires are not considered "research questionnaires" in the body of this report. This report will focus on documented psychological theories and documented effects of professionally written research questionnaires.<sup>3</sup>

<sup>1</sup> American Psychological Association, Washington, DC, 1973.

<sup>2</sup> A number of entertaining examples are given by Leo Bogart in Silent Politics: Polls and the Awareness of Public Opinion, New York, Wiley, 1972.

<sup>3</sup> A good check list of things to avoid in questionnaire construction is provided by Stanley L. Payne in The Art of Asking Questions, New Jersey, Princeton University Press, 1951.



## CRITICISMS OF QUESTIONNAIRES: ANXIETY, STRESS, AND INTEREST

There is an impressive amount of evidence that ordinary classroom tests cause students at all age levels to experience fear, excessive perspiration, and perhaps even some impairment of performance.<sup>4</sup> Of course, classroom tests are used to evaluate individuals and, for that reason, are potentially more threatening to persons than are research questionnaires. The individual who takes part in a research survey is told "this is not a test. The results will not affect your official record at this institution. Your answers are confidential." The purpose of such instructions is to prevent mental stress and to encourage honest responses. To the extent that researchers keep confidences and the respondents believe them, the research questionnaire will be less stressful than the classroom test.

Even the most carefully designed research questionnaire, however, does occasionally stimulate complaints. The frequency of complaints about a questionnaire is an index of its stressfulness. The next few paragraphs outline the results of studies which deal with subject complaints, or reactions to, research questionnaires.

The Program Evaluation Office of the US Office of Education did a study of 50 consecutive research projects submitted to them. Eight criteria were used to evaluate each questionnaire item for clearance; for example, "Does the item call for self-incriminating or self-debasing admission or confession," or "Does the item seem to countenance (or give unduly neutral recognition to) behavior or views which are generally considered highly reprehensible, immoral, contrary to public policy, etc."<sup>5</sup> In the 50 projects studied, there were 109 questionnaires with over 5300 separate items. Of these, only 10 items were judged objectionable by the USOE Clearance Committee. These figures are "not the result of cursory or indulgent examination of the instruments" (p. 358).

The US Commission of Obscenity and Pornography conducted a national survey of public attitudes toward erotic materials. Because such questions are generally considered sensitive, one might expect a high frequency of complaints about the questionnaire. The interviewers for this study, mostly female, were trained for three days before going out into the field. Respondents were contacted by letter prior to the interview. Surprisingly, negative comments about the interview were infrequent.<sup>6</sup> After the interview, each subjects privately completed a three-item questionnaire designed to measure the candor with which they had answered the interviewer. Candor varied somewhat with town size, church attendance, education, and reported exposure to erotica.

Both the USOE study and the Pornography Commission study are important because they dealt with highly sensitive issues. They demonstrate that professionally written research questionnaires generate very little antagonism in those who are questioned.

Although there has been some criticism of "tests" in the popular press, much of the criticism has been directed against aptitude tests or intelligence tests; there are fewer complaints about professionally written research questionnaires.

<sup>4</sup> The concept of test anxiety is reviewed by Secord and Backman in A Social Psychology of Education. The concept of test resistance was recently measured by C. Cunningham, in "Test taking attitudes among University and High School students." Dissertation Abstracts, 1966, 27, 1651-A.

<sup>5</sup> H. S. Conrad, "Clearance of Questionnaires with Respect to 'Invasion of Privacy,' Public Sensitivities, etc.," American Psychologist, 1967, 22, 356-360.

<sup>6</sup> L. Losciuto, A. Spertor, E. Michaels, and C. Jenne, Methodological Report, in "Technical Report of the Commission on Obscenity and Pornography," Volume VI, National Survey of Public Attitudes Toward and Experience with Erotic Materials, US Printing Office, 1970.

Humanist critics like Joseph Wood Crutch<sup>7</sup> seem to believe that certain human qualities, like happiness, cannot be measured. Paul Goodman,<sup>8</sup> on the other hand, criticizes one sociological questionnaire for not measuring important qualities: "He never asks a question which takes a youngster seriously as a human being... There is no way offered to express one's real sentiments on loyal friendship, love, knowledge, pride in a useful job, moral courage, radical dissent, fear and trembling... What strikes me--and what must vaguely strike the teenager--is that the avoidance of these questions is a signal" (p. 279-280). Research psychologists, of course, do not try to measure every important human attribute in every survey. Furthermore, the need for brevity and standardization in research questionnaires often does conflict with poetic nuances of expression which are used by the great philosophers.

The most serious public criticism of psychological tests dealt with the use of personality tests in selecting applicants for government jobs. One such test, the Minnesota Multiphasic Personality Inventory (MMPI) originally was designed to help psychiatrists diagnose the mentally ill. The MMPI Paranoia Scale, for example, consists of 40 statements like "no one understands me." If an individual endorses an above average number of such statements, he might be diagnosed as paranoid. In 1965, the MMPI and similar tests were used by the State Department for screening persons going to overseas posts where emotional stability might be of prime importance. Similar questions were used by Department of Defense to assure that "unreliable persons did not get into posts where their instability could be dangerous."<sup>9</sup> Critics objected to "invasion of privacy." Many psychologists also objected to the use of tests for purposes other than originally intended. Technically, a test which is valid for diagnostic purposes in a hospital setting is not necessarily valid for selection purposes. No new legislation resulted from the 1965 Congressional hearings on this issue, and psychological tests are still being used in the Federal Government. The issue is still somewhat controversial.<sup>10</sup>

The next few paragraphs report more systematic investigations of how the subject reacts to psychological research questionnaires. Instead of relying on spontaneous comments, all subjects were asked specifically for their reactions and evaluation of a research questionnaire.

In one experiment, individuals were asked 24 questions which were classified as psychologically "intimate" or as "non-intimate" questions. Prior to responding to these questions, the research subjects were asked to play the role of an interviewee in one of three different settings. The three different interview "settings" were created by having the "interviewee" listen to a tape recorded interview of (a) a business interview, (b) a psychiatric interview, or (c) a sex research interview. After responding to each question, the "interviewee" rated the interviewer-in-training. As you might expect, the interviewees rated the interviewer less favorably after an intimate question than after a non-intimate question. The results also showed that the interview setting influenced response to the interviewer. In a business context, intimate questions produced the most disliking, whereas the sex interview context produced the least

<sup>7</sup>Crutch, J. W., "Calipers on the Human Mind," Saturday Review, 19 Jun 65.

<sup>8</sup>Goodman, P., The Community of Scholars, New York: Vintage Books, 1962.

<sup>9</sup>Amrine, M., The 1965 Congressional inquiry into testing: A commentary, American Psychologist, 1965, 20, p. 867.

<sup>10</sup>The issue of invasion of privacy is complex, especially since the US Constitution does not refer specifically to the concept of privacy. In "What Price Privacy," C. C. Bennett agrees that the right to maintain personal secrets conflicts with an organization's need to build trust and to protect itself. See C. C. Bennett, "What Price Privacy," American Psychologist, 1967, 22, 371-376.



disliking--even though the same questions were asked in either setting.<sup>11</sup> This study suggests that attitudes toward research questionnaires may depend upon the purposes of the research as the subject understands them.

Dr. Donald W. Fiske completed two studies of the subject's reaction to psychological tests. The first study was a national opinion survey of the American public. Respondents were asked to take two short "personality tests" selected from a set of six abbreviated scales; an interest inventory, an attitude scale, and a test of psychopathology were among those included. Before taking the two psychological tests, half of the respondents were told to imagine they were applying for a job, and the other half were told to imagine they were taking these tests for "research" purposes only. There were few differences in response to these two different settings. Although there was a wide variety of reactions to these tests, most persons said, "I don't mind," or "I was interested," or "I was curious" in response to the tests. Fiske concluded that the general public is not too concerned one way or the other with psychological testing (p. 294).<sup>12</sup>

In a later study, Fiske explored several additional factors. College students took a personality test under anonymous conditions and answered a series of open-ended questions concerning their reactions to the test. Some subjects took a rather disorganized questionnaire with items selected at random from several standard personality tests. Other subjects took a longer test with four sub-scales selected from standard scales. A third group took a complete standard personality test. The comments of all three groups were classified into five categories: (a) desire for information about the test or tester, (b) desire for information about self, (c) criticisms of testing of item repetitiveness or ambiguity, (d) criticisms of self, (e) apprehensions and fears. Substantial proportions of subjects wanted more information about the test and were critical of testing in the first two groups. In the third group, subjects manifested more desire to learn about themselves and found the tests more interesting. Fiske noted a wide variety in individual reactions to tests. In conclusion, he recommends providing the subject with more information about the purpose of the test and more feedback about the results in personality research.

For many years, the IBM Corporation surveyed the attitudes of its employees. Since opinion surveys were used more widely in the 1960's than they were 10 years before, management instituted a program of evaluation.<sup>14</sup> Both manufacturing employees and managers were asked: (a) their degree of satisfaction with feedback from the survey and (b) the degree to which they thought the results of the survey were being utilized. Both written reports and open meetings were used to report back to survey respondents on the results of research. Feedback meetings were preferred to written reports as a means of learning about the results of the research. People were more satisfied with the results of the research if they received information about their own unit in the organization. For the line employees, satisfaction with feedback was independent of the perceived utilization of the survey results; for managers, however, satisfaction and utilization were closely lined. Managers want opinion survey results to be used.<sup>15</sup>

<sup>11</sup> Kaplan, K. J., Firestone, I. J., Moore, M., and Degnore, R., Attitude toward interviewer as a function of question intimacy across three interview settings. Proceedings of the 79th Annual Convention, American Psychological Association, Washington DC, 1971, pp. 375-376.

<sup>12</sup> Fiske, D. W., The Subject Reacts to Tests, American Psychologist, 1967, 22, 287-296.

<sup>13</sup> Fiske, D. W., and Kuncel, R. B., How Does it Feel to Take a Personality Test? Proceedings 80th Annual Convention, American Psychological Association, 1972, 7, pp. 25-26.

<sup>14</sup> Kraut, A. E., "Opinion Surveys: Turning Results into Action," Personnel, 1966, 43, 58-65.

<sup>15</sup> Klein, S. M., Kraut, A. E., and Wolfson, A., "Employee Reaction to Attitude Survey Feedback: A study of the Impact of Structure and Process." Administrative Science Quarterly, 1971, 16, 497-514.



In summary, research questionnaires do generate some small criticisms. Few subjects in a national survey of attitudes to pornography criticized the interview. Most items scrutinized by USOE were inoffensive. The use of personality tests for job selection has been criticized in Congress, but no serious offenses were uncovered. Experimental studies show people do react more negatively to "intimate" questions which are posed in the context of a business interview. The general public is not too concerned about personality testing, but criticism can be increased by presenting badly organized questions to the research subjects without fully explaining the purpose of the research. In a large company, people are more satisfied with questionnaire research if they are told about it in a public meeting, are given data privately about their own organizational unit, and if they see the results of the research being used.

#### EFFECTS OF QUESTIONNAIRES ON ATTITUDE CHANGE

A biased questionnaire can induce some opinion change. Two researchers<sup>16</sup> in Texas illustrated this fact by constructing three experimental questionnaires measuring attitudes

TABLE 1  
ILLUSTRATIVE ITEMS FROM EACH OF THE EXPERIMENTAL QUESTIONNAIRES

Form	%S's Choosing Each Response
Lenient	
1. Is a policy of imprisonment for all crimes a good idea since it would involve locking up petty offenders who would never try another crime, as well as persons who had one weak moment, or were victims of circumstance?	
a. Yes, any person who commits a crime, no matter how petty, should be put in prison.	10
b. No, a policy of imprisonment for all crimes is impractical as well as unreasonable.	90
Harsh	
1. Is a policy of imprisonment only for "serious" offenses or habitual criminality a good idea when it would probably encourage petty offenders and criminals who had never been caught to continue in their crimes?	
a. Yes, a policy of punishment for very serious offenders only, is a good idea.	0
b. No, it doesn't make good sense to adopt a policy which ways, in effect, "small jobs are okay as long as you are not caught pulling them off more than a couple of times."	100
Neutral	
1. Is a policy of imprisonment only for serious offenses or habitual criminality a good idea?	
a. Yes, a policy of imprisonment for serious offenders, or habitual criminals only, is a good idea.	54
b. No, such a policy is not a good idea.	46

<sup>16</sup> Dillehay, R. C., and Jernigan, L. R., The Biased Questionnaire as an Instrument of Opinion Change, *Journal of Personality and Social Psychology*, 1970, 15, 144-150.

to the treatment of criminals. One questionnaire was slanted so as to elicit "lenient" attitudes; another was slanted to elicit "harsh" attitudes; and the third was unbiased or "neutral." Table 1 gives an example of the type of item used, and shows that research subjects did give the type of response which each type of biased item demanded.

The subjects were divided into three different groups, and each group took a different questionnaire. Then they all took the same attitude scale, which was a professionally constructed unbiased measure of attitude to the treatment of animals. Males who took the "harsh" pre-test scored 75 on the common post-test; those who took the "lenient" pre-test scored 93 on the common post-test; and those who took the "neutral" pre-test scored 78. The difference between these group means is statistically significant and accounts for 13% of the variance of subjects' scores. The "lenient" pre-test resulted in larger differences than the "harsh" pre-test.

The research did not establish how long the bias would last, since the post-test was taken immediately after the biased questionnaire. Social psychological studies of opinion-change generally show that the impact of a persuasive message decays with time. If the "biased" pre-test questionnaire functions like propaganda, its impact would be greatest immediately after exposure to it and would diminish with time. Thus, a "13% change in attitude responses" probably over-estimates the long term effects of a biased pre-test on subsequent attitudes.

Further parametric studies of this phenomenon would help us use the results wisely. In ordinary practice, it would be difficult to construct pre-tests as biased as the ones constructed by Dillehay.<sup>17</sup> His harsh and lenient pre-tests represent extremes on a continuum of questionnaire biasing. Professional researchers try to be "unbiased" in constructing questionnaires: if their questionnaires are biased, the bias is unconscious, and less extreme. Social psychological studies of opinion-change generally show that extreme appeals have a greater persuasive impact than moderate appeals, assuming the message is credible. Thus, if biased questionnaires function like persuasive messages, the more extreme the bias, the greater the persuasive impact.

Do unbiased questionnaires cause attitude change? A number of recent studies have investigated the effects of giving a pre-test on response to persuasive messages. Table 2 gives an illustration of the basic experimental design used in a number of such studies.

TABLE 2  
THE FOUR-GROUP DESIGN FOR EXPERIMENTS ON ATTITUDE CHANGE

GROUP	TIME		
	First Measurement Period	Intervening Period	Second Measurement Period (Post-test)
A	Take an attitude scale (pre-test).	Hear a persuasive message.	Take the same attitude scale again.
B	Wait; do nothing.	Hear a persuasive message.	Take the attitude scale.
C	Take an attitude scale (pre-test).	Wait; no message.	Take the same attitude scale again.
D	Wait.	Wait; no message.	Take the attitude scale.

<sup>17</sup> Dillehay, R. C., Ibid.



Individuals are assigned to each experimental group at random, and, relying on the law of large numbers, should have equivalent attitude means before exposure to the two experimental treatment variables. Each of the four groups receives one of four possible sequences of pre-test (or no pre-test) followed by a persuasive message (or no message). Since all four groups start with the same attitude, analysis of post-test scores can be used to infer change in attitude.

In the first study using this design, college students were pre-tested (Groups A&C, Table 2) on their attitudes toward vivisection. Twelve days later, some of them heard a lecture which argued strongly in favor of vivisection. The pro-vivisection lecture was effective in changing attitudes toward vivisection, as the results showed. Those who were pre-tested showed no effect of pre-testing, and the pre-testing did not affect the reception given to the lecture.<sup>18</sup> A second study with a mental health film as the persuasive medium showed the same results: the persuasion worked to reduce ethnic prejudice, but pre-testing had no direct or indirect effects on post-test scores.<sup>19</sup> A third study, which used arguments both for and against vivisection, produced similar results.<sup>20</sup>

One study used a variation of the experimental design given in Table 2. All of the subjects read a persuasive message on advertising, some after being pre-tested for attitudes to advertising two weeks before. Half the subjects, after reading the pro-advertising message, but before taking the post-test, answered a questionnaire which was designed to make them suspicious of the purpose of the experiment and thus to discount the "propaganda." The results show that the suspicion arousing procedure was ineffective in producing attitude change. Furthermore, there was no effect of pre-testing on attitudes to advertising on the post-test.<sup>21</sup>

Several studies using the four-groups design, or an elaboration, found that pre-testing has a dampening effect on subsequent opinion change. With vivisection as the topic of persuasion, using a two-sided lecture, subjects who were pre-tested changed their opinions less than those who were not pre-tested.<sup>22</sup> In a series of studies on attitudes to racial integration, "pre-tested groups change less than unpre-tested groups" (p. 660).<sup>23</sup> Attitudes toward making decisions often shift toward a higher preference to risk after group discussion of the decision problem. In a recent study of this phenomenon, it was discovered that taking a pre-test significantly inhibits post-discussion opinion change.<sup>24</sup>

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<sup>18</sup> Lana, R. E., "Pre-test Treatment Interaction Effects in Attitudinal Studies," Psychological Bulletin, 1959, 61, 293-300.

<sup>19</sup> Lana, R. E., "A Further Investigation of the Pre-test Treatment Effect," Journal of Applied Psychology, 1959, 43, 421-422.

<sup>20</sup> Lana, R. E., and Rosnow, R. L., "Effect of Pre-test Treatment Interval on Opinion Change," Psychological Reports, 1968, 22, 1035-1036.

<sup>21</sup> Cowan, G., and Komorita, S. S., The Effects of Forewarning and Pre-testing on Attitude Change, Educational and Psychological Measurement, 1971, 31, 431-439.

<sup>22</sup> Lana, R. E., Inhibitory Effects of a Pre-test on Opinion Change, Educational and Psychological Measurement, 1966, 26, 139-150.

<sup>23</sup> Pauling, F. J., and Lana, R. E., The Effects of Pre-test Commitment and Information on Opinion Change, Educational and Psychological Measurement, 1969, 29, 653-663.

<sup>24</sup> Gaskell, G. D., Thomas E., and Farr, R., "Effects of Pre-testing on Measures of Individual Risk Preferences," Journal of Personality and Social Psychology, 1973, 25, 192-198.



Summarizing the results of ten experimental studies, Nosanchuck developed a theoretical model to explain the results.<sup>25</sup> When an individual takes an attitude scale for the first time, two things take place: first, he is exposed to new information which he may not have considered before; second, he makes a response to the attitude item and commits himself to a position. The two events have opposing effects on subsequent attitude change; exposure to new information tends to promote attitude change, whereas making a commitment to a position tends to inhibit attitude change. In most of the studies he reviewed, the "commitment" effect was the stronger of the two.

In discussing the effects of pre-testing on attitude change, one should distinguish between attitudes and factual knowledge. "Attitudes" imply the individual has adopted them freely for personal reasons in the absence of a clearly demonstrable official answer. If a teacher gives a "pre-test" of factual knowledge to his class before they read a chapter in the textbook, they will naturally do better on a post-test than the nonpre-tested students. In the context of classroom learning, a pre-test tells the students what to study for on the next test. This obvious point has been demonstrated by two experiments: one dealing with training of psychiatric nurses,<sup>26</sup> the other dealing with factual recall of a 388 word paragraph on mental health.<sup>27</sup>

Of course, it is sometimes difficult to demonstrate whether a statement is a matter of factual knowledge or is merely a matter of opinion. In really ambiguous cases, individual motives will influence the judgment that "x is a fact" as opposed to "x is an opinion." If a man is highly motivated to please the test-giver, he may judge the items on the pre-test as factual statements; if he is poorly motivated, he may judge the items as opinion statements. In the first case, pre-testing should facilitate attitude change; in the second, pre-testing should inhibit attitude change. Such a prediction was supported in a study by Rosnow and Suls.<sup>28</sup> To create motivation to please the experimenters, they paid some of their subjects who volunteered for the experiment. Other subjects did not volunteer but were required to participate in the experiment. A four-group design was used with the volunteers and the non-volunteers. Attitude toward nuclear research and its danger was the target of the persuasive messages and the post-test. As predicted, pre-tests immunized non-volunteers against attitude change; for the volunteers, pre-testing facilitated attitude change.

One final note of caution should be made with respect to research on the pre-test treatment interaction. Some of the studies cited in the report deal with rather trivial issues--such as "attitudes toward vivisection." While there is no empirical research on the effect of topic importance, social psychologists believe that it is easier to change unimportant attitudes than important ones. Thus, any effects of pre-tests are probably confined to beliefs about relatively unimportant matters. Firmly established, well supported rational beliefs probably are not affected by pre-tests.

In summary, biased questionnaires can cause attitude change while unbiased questionnaires inhibit attitude change, provided that the questionnaires are perceived as genuine research questionnaires rather than concealed measures of classroom learning.

<sup>25</sup> Nosanchuck, T. A., "Pretesting Effects: An Inductive Model," *Sociometry*, 1970, 33, 12-19.

<sup>26</sup> Hicks, J. M., and Spooner, F. E., Attitude Change and Mental Hospital Experience, *Journal of Abnormal and Social Psychology*, 1962, 65, 112-120.

<sup>27</sup> Lana, R. E., and Kings, J., Learning Factors and Determiners of Pre-test Sensitization, *Journal of Applied Psychology*, 1960, 44, 189-191.

<sup>28</sup> Rosnow, R. L., and Suls, J. M., Reactive Effects of Pre-testing in Attitude Research, *Journal of Personality and Social Psychology*, 1970, 15, 338-343.

ORGANIZATIONAL USE, CASE STUDIES, AND BEHAVIORAL EFFECTS

In spite of criticisms of standardized tests and of research questionnaires, both types of information gathering are used with increasing frequency.<sup>29,30</sup> The organizations which use such questionnaires apparently suffer no ill effects. Although some managers and some Congressmen feel they can do without, survey results are increasingly used to justify decision making. Prior to World War II, the Secretary of War forbade all anonymous opinion surveys in the Army: "Anonymous opinion...is destructive in its effect on a Military organization where accepted responsibility on the part of every individual is fundamental" (p.12). Yet, the War Department did change its opposition to such research, and a research branch was established within the Information and Education Division of the War Department. Plans for troop demobilization after World War II were justified on the basis of what the men themselves wanted. Thus, in spite of initial opposition to such questionnaire research, the opposition declined, and useful research was done.<sup>31</sup>

The mere use of questionnaires can have beneficial effects. National Sales Executives, Inc., surveyed 856 different companies which employ full-time salesmen. Companies which report using psychological tests for selecting salesmen had lower turnover rates than companies which did not use such tests. Furthermore, the more hours of testing, the lower the turnover of salesmen.<sup>32</sup> The point is that tests are used in business because research has shown that they are effective; e.g., they cut personnel costs.

A search was made for documented case studies of behavioral effects of research questionnaires. There were no such studies found in the literature. There are no case histories which show any behavioral change resulting from any questionnaire. In addition, a search was made for more systematic research studies other than case histories. Several studies of the effects of questions on subsequent behavior were found in the literature search, using research designs which were judged adequate for making causal inferences.

The first was a study of voting behavior.<sup>33</sup> One group of subjects was interviewed every month for four months during the 1944 presidential election campaign; this was the experimental group. Other groups were interviewed only twice--once at the beginning, and once later in the campaign. Although they do not present the data, the researchers noted that repeated interviewing did not affect the results.

A second study concerned the effect of repeated interviewing on consumer attitudes toward the economy. The Survey Research Center at the University of Michigan interviewed a "panel" of consumers five times over a year and a half interval. While the major purpose of the survey was to study their plans for buying cars and other durable goods, people were asked about their attitude toward the economy. At each stage, the panel was compared to a newly selected random sample of consumers. The repeatedly interviewed panel members were slightly more optimistic about the economy than were the members of the newly selected random sample. The attitude differences were small, however, and the researchers concluded that after controlling for differences in income between the two samples, there would be none.<sup>34</sup> Repeated interviewing has little effect on consumer attitudes.

<sup>29</sup> Goslin, D. A., Teachers and Testing, New York: Russell Sage, 1967.

<sup>30</sup> See Kraut, A. I., footnote #14.

<sup>31</sup> Stauffer, S. H., Suchman, E. A., Devinney, L. C., Star, S. A., & Williams, R. M., The American Soldier: Adjustment During Army Life, Vol. II, New York: Wiley, 1949.

<sup>32</sup> Laushe, C. H., and Balma, M. J., Principles of Personnel Testing, New York: McGraw-Hill, 1966, 2nd edition, pp. 7-10, & 195-197.

<sup>33</sup> Lazarsfeld, P. F., Berelson, B., and Baudet, H., The People's Choice, New York: Columbia University Press, 1948. See footnote #2, Chapter 1. The authors apparently intended to publish the data later, but they never did.

<sup>34</sup> Sobel, M. G., "Panel Mortality and Panel Bias." Journal of the American Statistical Association, 1959, 54, 52-68.



In a third study, the effect of counseling interviews on subsequent behavior was studied. Men undergoing basic combat training at an Army training center took a psychological test which predicts discipline problems--"The AWOL Syndrome." About 10% of the men were identified as high-risk cases using the test. Of this group, half the men were interviewed by their Commanding Officer to find out what might be done to prevent AWOL or other discipline problems. For the other half of the men, their tests were not scored in the field, and they were not interviewed by their CO. Of those interviewed, 12% were later punished under the Uniform Code of Military Justice. Of those not interviewed, only 7% were later punished. Clearly, the "counseling interview" used by CO's had a detrimental effect on the behavior of the men. The researchers term this a case of self-fulfilling prophecy.<sup>35</sup>

In comparing the studies, the interviews in the first two were for research purposes, whereas the interview in the third was to prevent misbehavior. It seems likely that in the latter study, the interviewer was not merely recording attitudes, but was actively trying to change them. In general, the results of this section show no harmful effects of research oriented interviews. When questionnaires are used by organizations for planning or for selection of employees, the results are beneficial to the organization.

#### IMPLICATIONS AND RECOMMENDATIONS

We have now completed our review of the effects of research questionnaires on the persons who take them. All of the research studies cited in this review were done outside the Military Academy, and most were focused on non-military situations. What are the implications of these studies upon institutional research at the Military Academy? This section will attempt to generalize from the above cited extramural studies and refer to local experience when it is relevant.

Three studies cited above noted a low frequency of complaints about professional surveys or a low degree of public concern. Our experience at West Point is congruent with these extramural studies. Dr. Richard Butler found fairly good agreement among research psychologists and an Army officer on the degree of "sensitivity" of over 35 questionnaire items. Most of these were judged not sensitive or controversial. But even the sensitive items did not cause anonymous respondents and non-anonymous respondents to differ in their responses.<sup>36</sup> Furthermore, although the average cadet takes more than 12 surveys in his four years at West Point, the questionnaires are seen as a useful medium of change.<sup>37</sup> Finally, a content analysis of comments by First Classmen indicates that "Research Questionnaires" are of little concern. Of 22 topics which elicited five or more comments, "Research Surveys" ranked 15.5 in frequency of mention, far below topics like "Cadet-Tactical Officer Relations," "The Discipline System," and "The Honor System."

While research questionnaires at West Point have been remarkably non-controversial (at least to the subjects), it may be possible to improve them still further. The following recommendations are based on principles derived from the preceding review of the literature: the principle of giving cadets a better explanation for the purposes of the research, the principle of organizing the questionnaire more carefully, and the principle of greater cadet participation.

<sup>35</sup> Bell, D., Bolin, S., Houston, T., and Kristiansen, D., "Predictions and Self-fulfilling Prophecies of Army Discipline," Proceedings of 81st Annual Convention, American Psychological Association, 1973, 8, 743-744.

<sup>36</sup> Butler, R. P., "Effects of Signed and Unsigned Questionnaires for Both Sensitive and Non-sensitive Items," Journal of Applied Psychology, 1973, 57, 348-349.

<sup>37</sup> Marron, J. E., "The Frequency, Source and Value of Cadet Surveys--A Research Note," Office of Institutional Research, 4E1.03-72-018.



1. Give cadets a more inspirational set of instructions; simply saying, "The following questionnaire is designed to obtain research information for the USMA Office of Institutional Research," is not very exciting.
2. Organize the questionnaire better. If the Office of Military Instruction, for example, wants a particular item, why not tell the cadets: "These items will help OMI do its job better"? By identifying who is going to use the information, it is more likely that they will see the questionnaires as really useful, rather than a waste of time.
3. Schedule a feedback session for cadets who want to learn more about the results of the survey. This should increase cadet satisfaction with the surveys.
4. Involve selected cadets in planning the questionnaires; this is especially important in checking for completeness of coverage, and checking on the wording of questions. Most professional survey researchers advocate doing "pilot work" with a small sample. Before mass sampling begins, "pilot work" with small random samples of cadets would accomplish these objectives.
5. When it is not necessary, do not require cadets to include their name and cadet number on the answer sheet.<sup>38</sup>
6. Use the results of the research, and document the uses of past research for interested cadets.

The fact that a highly biased, one-sided questionnaire may cause a small amount of attitude change should have little direct impact on attitude research here at USMA. Each research questionnaire is reviewed intensively by researchers and by administrators, each with their own bias. Given the extensive review process, it is unlikely that a highly biased, one-sided questionnaire would be given to cadets.

Furthermore, most of the evidence on professionally constructed attitude scales suggests that they do not promote attitude change. If anything, questionnaires tend to prevent attitude change. Any change in attitude or stabilizing in attitude is likely to be confined to unimportant issues. Thus, asking a cadet, "How do you feel about Constitution Island?" will probably commit him to his originally held opinion. Asking him, "Do you intend to resign from USMA?" will probably have virtually no effect on him, since it is a more important question.

A final recommendation of this report has to do with the conduct of institutional research at West Point. In any organization, some research will focus on immediate short-range problems of the organization, whereas other research is focused on long-range, enduring problems. If a crisis occurs, and the organization is threatened, naturally the organization will have to initiate some short-range institutional research to find out what caused the crisis. Such crisis-instigated research tends to foster a faulty research design, and an improper research design leads to misinterpretation. For example, suppose there is a "crisis" over resignation: a class is suspected of having a high number of potential resignees. If the cadets are given a questionnaire with many questions like, "Have you ever thought of resigning?," and many cadets do subsequently resign; then it will seem as if the questionnaire caused the resignation. To avoid such post-hoc fallacies, the four groups design (described in Table 2) should be used. To avoid the faulty logic of crisis-oriented research, institutional research surveys should be done on a planned, periodic basis.

Fortunately, the Office of Institutional Research has the capacity for dealing with potential long-range problems before they reach crisis proportions. To make the most of this capacity, the final recommendation is stated below:

7. Questionnaire items should be evaluated not only in terms of immediate practical use, but also for measuring trends, and for anticipating long-range needs. Items with no "apparent" immediate use may be extremely valuable in the long run.

<sup>38</sup> However, protection of individual privacy must be weighed against accuracy of the information. Sometimes anonymity has no effect in questionnaire responses (Marron, J., "The Effect of Anonymity of the Responses to the First Class Questionnaire, Class of 1971," 4El.01-72-016, Sep '71); sometimes it can lead to faking (Medsker, G., "Cadet Faking on Psychological Tests," 4Gl.00-73-025, May '73).

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